

The Anodic Protection of Titanium in Sulfuric Acid

SOV/2p-121-5-33/50

in the active state after dressing. The potential of the active state of titanium in sulfuric acid was equal to $\sim 0,3$ V. The oxygen in the air dissolved in the electrolyte, plays the principal rôle in the conservation of the stability of the passive state of titanium in diluted solutions of sulfuric acid. If the titanium surface is treated in a 10% solution of H_2SO_4 in an oxygen atmosphere, the titanium also turns into the passive state. There is a protecting, stable oxide film on the surface of titanium in the passive state. Also the surface of titanium in its active state is partially covered by an oxide film. The second diagram shows the curves of the anodic polarization of titanium in solutions of sulphuric acid of various concentrations. The anodic polarizability in the region of the active dissolution of titanium increases if the concentration of the sulfuric acid decreases. The last diagram shows the results of the corrosion experiments on titanium samples with and without anodic protection. The corrosion losses of the non-protected samples increased

Card 2/3

The Anodic Protection of Titanium in Sulfuric Acid

SOV/20-121-5-33/50

linearly with time. After an anodic protection of titanium in both of the investigated solutions of sulfuric acid practically no corrosion losses were found. There are 4 figures and 12 references, 9 of which are Soviet.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry, AS USSR)

PRESENTED: April 11, 1958, by P.A.Rebinder, Academician

SUBMITTED: April 8, 1958

Card 3/3

ARAKELOV, A.N.; TSVETKOV, L.A.

Comparative analysis of various diagrams for oil and gas collection
in the field and the control of gas and light fraction losses.
Trudy Giproostoknefti no.1:389-403 '58. (MIRA 13:9)
(Oil fields--Production methods)

ARAKELOV, A.N.; TSVETKOV, L.A.

Efficient means for recovering and transporting oil and gas
in the eastern oil fields of the U.S.S.R. Neft. khoz. 40
no.4:44-48 Ap '62. (MIRA 15:5)
(Oil fields--Production methods)

ARAKELOV, A.S.; BORISOV, V.A.; GAL'PERIN, I.I.; GUREVICH, A.G.; DOVZHUK,
G.T.; PARSHIN, R.N.; SOKOLOVSKIY, S.M.; SELIKHOV, V.L.; SHIFRIN,
D.L.; ETKIN, M.V.; GET'YE, V.A., red.toma; YELIN, V.I., red.toma;
SOLDATOV, K.N., red.toma; SVYATITSKAYA, K.P., vedushchiy red.;
TROFIMOV, A.V., tekhn.red.

[Equipment used in the petroleum industry] Neftianoe oborudovanie;
v shesti tomakh. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-
toplivnoi lit-ry. Vol.1. [Compressors and pumps] Kompresory i
nasosy. 1958. 234 p. (MIRA 12:5)

(Petroleum industry--Equipment and supplies)
(Pumping machinery) (Compressors)

PHASE I BOOK EXPLOITATION

80V/5342

Anastas'in, V.F., A.S. Arakelov, A.L. Bobrov, Yu. V. Vikhorev, S.I. Vil'dar, I.K. I.K. Glushko, A.M. Gokun, Ya.I. Pin'kovskiy, N.D. Pashkov, G.K. Ryabukha, G.S. Rebenko, F.P. Smurov, D.M. Soskind, N.A. Samsonov, B.A. Semenov, A.B. Suleymanov, A.A. Kharlamov, B.N. Tsar'kov, D.L. Shifrin, and V.I. Sheynman, compilers.

Neftyanoye oborudovaniye v shesti tomakh. t. 4: Oborudovaniye i apparatura dlya pererabotki nefi (Petroleum Equipment in Six Volumes. v. 4: Equipment and Apparatus for Petroleum Processing) Moscow, Gostoptekhizdat, 1959. 294 p. Errata slip inserted. 5,700 copies printed.

Eds. of this Volume: Dmitriy Dmitriyevich Abakumovskiy, and Fedor Pavlovich Smurov; Exec. Ed.: K.P. Svyatitskaya; Tech. Ed.: A.V. Trofimov.

PURPOSE: This catalog-handbook is intended for technical personnel of the petroleum industry.

COVERAGE: The catalog-handbook, comprising six volumes, describes special equipment, apparatus, accessories, instruments, tools and devices manufactured in the Soviet Union for use in the petroleum industry. The present volume (IV) contains information on petroleum-processing equipment and apparatus as well as auxiliary

Card 1/2

KASUMZADE, N.G.; TER-SAAKOV, B.U.; MAMEDOV, M.A.; ~~ARAKELOV, A.S.~~;
SPEKTOR, Sh.Sh.; NEGREYEV, V.F., red.; ZEYNALOVA, T.Z.,
red. izd-va; AKHMEDOV, S., tekhn. red.

[Protection of apparatus and equipment of petroleum re-
fineries from corrosion] Zashchita apparatury i oborudovaniia
neftepererabatyvaiushchikh zavodov ot korrozii. [By] N.G.
Kasumzade i dr. Baku, Azerneshr. 1962. 282 p. (MIRA15:9)
(Petroleum refineries—Equipment and supplies)
(Corrosion and anticorrosives)

ARAKHELOV, I.K., inzhener (Yaroslavl')

Ties that will last longer. Put' i put. khoz. no.1:35-36'Ja '57.
(Railroads--Track) (MLRA 10:4)

ARAKHLOV, K.N.; KIREL', G.V.; KULIYEV, S.M., professor, redaktor; GONCHAROV, I.A.,
tekhnicheskiiy redaktor

[Work practices of boring brigade leader G.A. Temirkhanov] Opyt
raboty burovoi brigady mastera G.A. Temirkhanova. Red. S.M.
Kuliev. Baku, Gos. nauchno-tekhn. izd-vo neft. i gorno-toplivnoi
lit-ry, Azerbaidzhanskoe otd-nie, 1954. 58 p. [Microfilm]
(Oil well drilling) (MLRA 10:5)

ARAKELOV, KH. S.

PA 50T88

USSR/Petroleum Industry
Electrical Equipment

Dec 1947

"Selecting Voltage for Power Utilizers at Petroleum Industries," Kh. S. Arakelov, Rostov Designing and Construction Adm KavElektroMontazh Trust, 2 pp

"Energeticheskiy Byull" No 12

Problem of proper selection of voltage for the equipment used at petroleum industries closely associated with problem of decreasing loss of electric power as well as decreasing amount of nonferrous metals that would be used for the circuits at petroleum industries. Author presents several factors that must be taken into account to be able to make reasonable selection of voltage to be used. IC 50T88

ARAKELOV, O. G.

BIBERGALL', A.V.; KOROTKOV, M.M.; ARAKELOV, O.G.

Gamma irradiation apparatus GUBE-800 for radiobiological experiments
[with summary in English]. Biofizika 3 no.1:118-122 '58. (MIRA 11:2)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(GAMMA RAYS) (BIOLOGICAL APPARATUS AND SUPPLIES)

ARAKELOV, D. G.

~~YASHEV, G. D.~~

176

PHASE I BOOK EXPLOITATION SOV/5410

Tashkentskaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii. Tashkent, 1959.

Trudy (Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy) v. 2. Tashkent, Izd-vo AN UzSSR, 1960. 449 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk Uzbekskoy SSR.

Responsible Ed.: S. V. Starodubtsev, Academician, Academy of Sciences Uzbek SSR. Editorial Board: A. A. Abdullayev, Candidate of Physics and Mathematics; D. M. Abdurazulov, Doctor of Medical Sciences; U. A. Arifov, Academician, Academy of Sciences Uzbek SSR; A. A. Borodulina, Candidate of Biological Sciences; V. N. Ivashev; G. S. Ikramova; A. Ye. Kiv; Ye. M. Izbakov, Candidate of Physics and Mathematics; A. I. Nikolayev, Candidate of Medical Sciences; D. Nishanov, Candidate of Chemical Sciences; A. S. Sadykov, Corresponding Member, Academy of Sciences USSR, Academician, Academy of Sciences Uzbek SSR; Yu. N. Talanin,

Card 1/20

176

Transactions of the Tashkent (Cont.)

SOV/5410

Candidate of Physics and Mathematics; Ya. Kh. Turakulov, Doctor of Biological Sciences. Ed.: R. I. Khamidov; Tech. Ed.: A. G. Babakhanova.

PURPOSE : The publication is intended for scientific workers and specialists employed in enterprises where radioactive isotopes and nuclear radiation are used for research in chemical, geological, and technological fields.

COVERAGE: This collection of 133 articles represents the second volume of the Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy. The individual articles deal with a wide range of problems in the field of nuclear radiation, including: production and chemical analysis of radioactive isotopes; investigation of the kinetics of chemical reactions by means of isotopes; application of spectral analysis for the manufacturing of radioactive preparations; radioactive methods for determining the content of elements in the rocks; and an analysis of methods for obtaining pure substances. Certain

Card 2/20.

176

Transactions of the Tashkent (Cont.)

SOV/5410

instruments used, such as automatic regulators, flowmeters, level gauges, and high-sensitivity gamma-relays, are described. No personalities are mentioned. References follow individual articles.

TABLE OF CONTENTS:

RADIOACTIVE ISOTOPES AND NUCLEAR RADIATION
IN ENGINEERING AND GEOLOGY

Lobanov, Ye. M. [Institut yadernoy fiziki UzSSR - Institute of Nuclear Physics AS UzSSR]. Application of Radioactive Isotopes and Nuclear Radiation in Uzbekistan

7

Taksar, I. M., and V. A. Yanushkovskiy [Institut fiziki AN Latv SSR - Institute of Physics AS Latvian SSR]. Problems of the Typification of Automatic-Control Apparatus Based on the Use of Radioactive Isotopes

9

Card 3/20

10

- Transactions of the Tashkent (Cont.) SOV/5410

Leshchinskiy, N. I., G. N. Lokhanin, and A. S. Shtan' [Glavatom - Main Administration for the Utilisation of Atomic Energy], Organization of Laboratories for Experiments Using Radioactive Substances 132

Bibergal', A. V., N. I. Leshchinskiy, M. N. Korotkov, and O. G. Arakelov. Development of a Transportable Gamma-Plant for Seed Irradiation Before Sowing 148

Artmeladze, I. D., A. A. Bibergal', and T. V. Tsatskhiladze [Institut fiziki AN GruzSSR - Institute of Physics AS GruzSSR] Experimental Semi-Industrial Gamma-Plant for Radiation Processing of Agricultural Products in Georgia 155

Bibergal', A. V., N. I. Leshchinskiy, U. Ya. Margulis, and V. G. Khrushchev. [Ministerstvo zdravookhraneniya - Ministry of Health USSR]. Some Problems of Design and Construction of High-Capacity Gamma-Plants 164

Card 9/20

ARAKELOV, R.A.

State of the coagulation and anticoagulation system of the
blood in epidemic hepatitis. Sovet. med. 27 no.6:55-61 Je'63
(MIRA 17:2)

1. Iz kliniki infektsionnykh bolezney (zav. - prof. K.V.Bunin)
I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.
Sechenova.

BUNIN, K.V., prof.; ARAKELOV, R.A.; VENGEROV, Yu.Ya.

Fibrinolytic activity of the blood in Botkin's disease and
typhoid fever. Probl. gemat. i perel. krovi 9 no.3:16-19
Mr '64. (MIRA 17:10)

1. Kafedra infektsionnykh bolezney (zav.- prof. K.V. Bunin) I
Moskovskogo ordena Lenina meditsinskogo instituta imeni
Sechenova.

ARAKELOV, R.A.

Determination of the thromboplastic activity of the blood as an index of the functional state of the liver in Botkin's disease. Lab. delo no.1:29-32 '64. (MIRA 17:4)

1. Klinika infektsionnykh bolezney (zaveduyushchiy - prof.K.V.Bunin)
I Moskovskogo ordena Lenina meditsinskogo instituta im. I.M.Sechenova.

*

ARAKELOV, V.

A sample room at a wholesale center. Sov.torg. 33
no.8:20-21 Ag '60. (MIRA 13:8)

1. Glavnyy tovaroved krayevoy trgovoy bazy Rostekstil'torg,
g.Krasnodar.
(Krasnodar--Samples(Commerce))

ARAKELOV, V.

Staple ball. Sov.torg. 34 no.7:33-35 J1 '61. (MIRA 14:7)

1. Glavnyy tovaroved krayevoy trgovoy bazy Rostekstil'torga,
Krasnodar.

(Krasnodar---Textile industry)

ZHUKOV, Nikolay Aleksandrovich [deceased]; MAKSIMOVICH, Aleksandr Pavolovich;
ARAKELOV, V.M., redaktor; MELEYEV, A.S., redaktor izdatel'stva;
TROFIMOV, A.V., tekhnicheskiy redaktor

[Repair and inspection of seagoing vessels] Remont i osvidetel'stvo-
vanie morskikh sudov. Moskva, Izd-vo "Morskoi transport," 1956.
370 p. (MLRA 10:3)

(Ships--Maintenance and repair)

ARAKELOV, V.M., redaktor; ALEKSEYEV, A.N., redaktor; KUSHEL'NIKOV, I.I.,
redaktor; KOTLYAKOVA, O.I., tekhnicheskii redaktor

[Regulations governing the classification and construction of steel-
oceangoing vessels] Pravila klassifikatsii i postroiki morskikh
stal'nykh sudov. Leningrad, Izd-vo "Morskoi transport," 1956. 509 p.
(MIRA 9:12)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye morskogo
registra.
(Ships, Iron and steel)

STEFANOVICH, A.N.; ~~ARAKELOV, V.M.~~ nauchnyy red.; VOROB'YEV, G.S., red. izd-va,;
GURDZHIYEVA, A.N., tekhn. red.

[From the "Ernak" to atomic ice breaker] Ot "Ermaka" do atomnogo
ledokola. Leningrad, Ob-vo po rasprostraneniu polit. i nauchn.
znaniy RSFSR, 1958. 36 p. (MIRA 11:12)
(Ice-breaking vessels)

BARDINA, V.; ZOBACHEV, Yu.; KUZNETSOV, V.; SHCHERBAKOV, P.; STRUMPE, P.I., kand.
tekhn.nauk, otv.red.; ARAKHOV, V.M., nauchnyy red.; FRESMAN, D.Ya., red.;
FRISMAN, Z.S., red. izd-va; KOTLYAKOVA, O.I., tekhn.red.

[Protection of tanks used on oil tankers] Protektornaya zashchita
tankov neftenalivnykh sudov. Leningrad, Izd-vo Morskoi transport.
1959. 47 p. (Leningrad. tsentral'nyi nauchno-issledovatel'skii
institut morskogo flota. Trudy no.24) (MIRA 12:5)
(Tank vessels) (Tanks) (Corrosion and anticorrosives)

GLIKMAN, L.A.; KOSTROV, Ye.N.; SUPRUN, L.A.; YELIN, I.A.; SHCHERBAKOV, P.S.;
ZOBACHEV, Yu.Ye.; DOBRER, V.K.; STRUMPE, P.I., kand.tekhn.nauk, otv.
red.; ARAKHELOV, V.M., nauchnyy red.; BAMA, N.G., red.; KOTLYAKOVA, O.I.,
tekhn.red.

[Organization and technology of ship repair; corrosion and
mechanical strength of metals] Organizatsiya i tekhnologiya
sudoremonta; voprosy korrozionno-mekhanicheskoi prochnosti
metallov. Leningrad, Izd-vo Morskoi transport 1959. 76 p.
(Leningrad. tsentral'nyi nauchno-issledovatel'skii institut
morskogo flota. Trudy no.22) (MIRA 12:5)

(Metals--Testing) (Corrosion and anticorrosives)

STRUMPE, Petr Ivanovich, kand.tekhn.nauk; YAKUSHENKOV, Andrey Andreyevich, kand.tekhn.nauk; SYROMYATNIKOV, Viktor Fedorovich, kand.tekhn.nauk; RAPOPORT, Leonid Il'ich, kand.tekhn.nauk; MELNESHKIN, Georgiy Aleksandrovich, kand.tekhn.nauk; MIROSHNICHENKO, Il'ya Petrovich, kand.tekhn.nauk; ARAKHOV, Vladimir Mikhaylovich, inzh.; SKOMOROVSKIY, Rostislav Vsevolodovich, kand.tekhn.nauk; PESOCHINSKIY, Viktor Nikolayevich, kand.tekhn.nauk; NELIDOVA, E.S., red.; TIKHONOVA, Ye.A., tekhn.red.

[Over-all mechanization and automatization in the merchant marine]
Kompleksnaya mekhanizatsiya i avtomatizatsiya na morskoy transport.
Pod obshchei red. P.I.Strumpe. Moskva, Izd-vo "Morskoy transport,"
1959. 95 p. (MIRA 13:5)

(Merchant marine--Equipment and supplies)

(Cargo handling--Equipment and supplies)

(Automatic control)

SHELUCHENKO, Valentin Mikhaylovich; ARAKELOV, V.M., inzh., spets.red.;
FRISHMAN, Z.S., red.izd-va; KOTLYAKOVA, O.I., tekhn.red.

[Present-day methods of repairing parts of marine machinery]
Sovremennye metody remonta detalei sudovykh mekhanizmov.
Leningrad, Izd-vo "Morskoi transport," 1959. 119 p. (MIRA 12:6)
(Ships--Maintenance and repair)

ARAKELOV, V.N., inzh.; MESTER, I.M., inzh.

Study of pulse-duration telemetering converters. Izv.vys.ucheb.zav.;
gor.zhur. 7 no.12:114-121 '64. (MIRA 18:2)

1. Karagandinskiy nauchno-issledovatel'skiy ugol'nyy institut.
Rekomendovana kafedroy avtomatizatsii proizvodstvennykh protsessov.

DONIS, V.K.; ARAKELOV, V.N.; GARDIMAN, M.G.

Selecting an optimal frequency multiplex band for telephone and power distribution networks in Karaganda Basin mines. Nauch. trudy KNIUI no. 11:257-262 '62.

Remote control system of centralized control and signaling operations of section mechanisms. Ibid.:263-277 (MIRA 17:7)

DONIS, V.K.; ARAKELOV, V.N.; KOGAY, L.I.

System of remote control, telesignallization, and telometry
for coal mines. Nauch. trudy KNIUI no.15:329-339 '64.

Static trigger as a type of output device for DTK-1
dispatcher remote control equipment. Ibid.1:339-345

(MIRA 18:8)

DONIS, V.K.; ARAKELOV, V.N.; ARAKELOVA, Zh.N.

Reliability of equipment of the DTK system of the dispatcher
remote control. Nauch. trudy KNIUI no.15:346-356 '64.
(MIRA 18:8)

ARAKEL'YAN, V.N.; DONIS, V.K.; MESTER, I.M.

Industrial testing of equipment for telemetering the parameters
of a mine atmosphere during the joint operation with the DTK-1
dispatcher remote control equipment. Nauch. trudy KNIUI
no.15:356-362 '64. (MIRA 18:8)

ARAKHICV, V.G.

Entropy of the source of the system TS -- TI with independent
selection of communications. Nauch. trudy KNIUI no.15:362-
372 '64.

Frequency band held by the pulse in a time channel.
Ibid.:372-375 (MIRA 18:8)

ARAKELOV, V.S.

Some problems concerning the assortment of textile goods.
Tekst. prom. 24 no.9:75-79 S '64.

(MIRA 17:11)

1. Glavnyy tovaroved Krasnodarskoy krayevoy trgovoy bazy
Respublikanskoy kontory po optovoy trgovle tekstil'nyimi
tovarami Ministerstva tovgovli RSFSR.

GORDOVA, Z.A.; RYBALKINA, V.N.; ARAKELOVA, G.M.

Case of salmonellosis in the town of Dushanbe. Zdrav. Tadzh. 9
no.1:46 Ja-F '62. (MIRA 15:4)

1. Iz bakteriologicheskoy laboratorii Gorodskoy klinicheskoy
infektsionnoy bol'nitsy g. Dushanbe (glavnyy vrach - A.A.Akilov).
(DUSHANBE--SALMONELLA)

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 12,
p 17 (USSR) 15-57-12-16804

AUTHORS: Pobedina, V. M., Voroshilova, A. G., Arakelova, N. A.

TITLE: The Stratigraphy of the Oligocene-Miocene Deposits of
the Caspian Region (K stratigrafii oligotsen-miotsen-
ovykh otlozheniy Prikaspiyskogo rayona)

PERIODICAL: Tr. Azerb. n.-i. in-ta po dobyche nefti, 1956, Nr 4,
pp 86-95

ABSTRACT: The Oligocene-Miocene deposits of the Caspian region
include beds ranging from the Maykop series to the
Meotian. The Oligocene is divided into the Khadum
horizon with Planorbella and the lower Maykop, car-
bonatic clays with layers of sand and non-carbonatic
clays. The upper Maykop beds (predominantly non-
carbonatic clays) belong to the Miocene. The middle
Miocene is divided into the Tarkhan horizon,

Card 1/2

The Stratigraphy of the Oligocene-Miocene Deposits (Cont.) 15-57-12-16804

calcareous clays with globigerina and miliolids; the Chokrak horizon, sandy clays with layers of sands, containing spirialid pteropods and foraminifers; the Karagan horizon, clays with layers of sand and marl, containing numerous spaniodontellids and otolithic fish); and the Konka horizon, calcareous clays with a rather variable foraminiferal content. The Sarmatian series contains three horizons in all. The lower Sarmatian contains two facies: deep-water clays on the northeast and littoral sands on the southwest. A variety of molluscs and foraminifers is found in this horizon. The middle Sarmatian is divided into two parts. The lower consists of deep-water clay (Cryptomactra) beds with miliolids; the upper contains shallow-water sandstones with molluscs and nonionids. The upper Sarmatian contains a lower clay unit (the Rostov horizon) and an upper littoral shallow-water unit, consisting of limestones, sandstones, and conglomerates (the Kherson horizon). The Meotian series, composed of clays with otolithic fish and diatoms, has been identified only at Sovetabad.

Card 2/2

V. A. Krashenninnikov

POBEDINA, V.M.; VOROSHILOVA, A.G.; ARAKELOVA, N.A.

Oligocene-Miocene stratigraphy of the Caspian Sea region. Trudy
AzNII DN no.4:86-95 '56. (MIRA 14:4)
(Caspian Sea region—Geology, Stratigraphic)

YANITSKIY, G., tekhnik; ARAKELOVA, O.; KOMAROVA, V.; SHCHEKOTKOV, A.,
montazhnik (g.Moskva); VINNIKOV, F.

Suggested, created, introduced. Izobr.i rats. no.6:10-11 Je
'62. (MIRA 15:6)

1. Predsedatel' Soveta Vsesoyuznogo obshchestva izobretateley
i ratsionalizatorov neftepromyslovogo upravleniya "Ordzhonikidzeneft",
g. Baku (for Arakelova). 2. Sotrudnitsa Vystavki dostizheniy
narodnogo khozyaystva SSSR (for Komarova).
(Technological innovations)

DONIS, V.K.; ARAKELOV, V.N.; ARAKELOVA, Zh.N.

Reliability of equipment of the DTK system of the dispatcher
remote control. Nauch. trudy KNIUI no.15:346-356 '64.
(MIRA 18:8)

MELIK-ASLANOV, L.S.; ARAENLYAN, A.A.; OVNATANOV, S.T.

Edge water encroachment of the Sub-Kirmaki series in the southeastern
area of the Surakhany field. Trudy AzNII DN no.3:210-231 '56.
(MIRA 11:6)

(Apsheron Peninsula--Oil well flooding)

ACC NR: AP6031979

SOURCE CODE: UR/0433/66/000/009/0016/0017

AUTHOR: Arakelyan, A. (Head); Saakyan, Z. (Chief agronomist)

ORG: [Arakelyan] Department of Plant Protection, Institute of Viniculture, Wine Making, and Fruit Growing, Armenian SSR (Otdel zashchity rasteniy Instituta vinogradarstva, vinodeliya i plodovodstva Armyanskoy SSR); [Saakyan] "Zeytun" Sovkhoz (sovkhoz "Zeytun")

TITLE: Practical experience in combatting coddling moths and ticks

SOURCE: Zashchita rasteniy, no. 9, 1966, 16-17

TOPIC TAGS: pest control, plant pest, pesticide, crop spraying, agriculture, *ticks, animal parasite*

ABSTRACT: Crop spraying with a mixed DDT-parathion powder over a period of several years significantly reduced infestation by ticks and coddling moths on a Sovkhoz. The techniques were first tried on test plots and then applied over large areas. A liquid suspension was also used and was applied at the rate of 1500 g/hr. During the second year after the start of the trials, losses were cut by half. [WA-50; CBE No. 12]

SUB CODE: 06/ SUBM DATE: none

Card 1/1

UDC: 632.9/78/.654

ACC NR: AP6031979

SOURCE CODE: UR/0433/66/000/009/0016/0017

AUTHOR: Arakelyan, A. (Head); Saakyan, Z. (Chief agronomist)

ORG: [Arakelyan] Department of Plant Protection, Institute of Viniculture, Wine Making, and Fruit Growing, Armenian SSR (Otdel zashchity rasteniy Instituta vinogradarstva, vinodeliya i plodovodstva Armyanskoy SSR); [Saakyan] "Zeytun" Sovkhoz (sovkhoz "Zeytun")

TITLE: Practical experience in combatting codling moths and ticks

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SUB CODE: 06/ SUBM DATE: none

Card 1/1

UDC: 632.9/78/.654

ARAKELYAN, A., inzh.; ARABYAN, K., inzh.

The power factor is an index of efficient use of electric power.
Prom.Arm. 4 no.8:20-23 Ag '61. (MIRA 14:8)

1. Energosbyt Energoupravleniya Sovnarkhoza Armyanskoy SSR.
(Armenia--Electric power distribution)

ARAKELYAN, A.

Problems of the manufacturing technology of tuff-concrete blocks in
the Artik plant. Prom.Arm. 5 no.5:21-25 My '62. (MIRA 15:7)
(Armenia—Concrete plants) (Armenia—Vulcanic ash, tuff, etc.)

ARAKELYAN, A.; ASATRYAN, V.

Lightweight concrete based on separator slag of the Karmrashen deposit. Prom.Arm. 5 no.9:32-34 S '62. (MIRA 15:9)

1. Armyanskiy institut stroitel'nykh materialov sooruzheniy.
(Karmrashen region--Slag) (Lightweight concrete)

COMMON ELEMENTS		PROCEDURE AND PROPERTIES SHEET		1ST AND 2ND QUARTERS	
<i>BC</i> ARAKELIAN, A.		Gas and water from geother in Kara-Chakhar. L. Tossin and A. ARAKELIAN (Azerbaij. Neft. Chet. 1932, No. 1, 59-60). The gas contained CO₂ 0.3-4.6 hydrocarbons 72.5-88.4, H₂ 0-23.1%, H₂O from wells contained Cl 4.500-8.500, CO₂ 0.002-0.341, SO₂ 0.000-0.000, CaO 0.1000-0.784, MgO 0.1619-0.784 p. per liter. Ch. Ana.		<i>B-1-2</i>	
ASH-LEA METALLURGICAL LITERATURE CLASSIFICATION		FROM SCHLAV		FROM SCHLAV	
1ST QUARTER		2ND QUARTER		3RD QUARTER	

PROCESSING AND PALETTE INDEX																									
Ca ARAKELIAN, A.																									
Kara-Chur oil fields. A. Arakelyan. <i>Nefi</i> 4, No. 18, 4-6(1953).—A geological description. A. A. II.																									
ASB-11A METALLURGICAL LITERATURE CLASSIFICATION																									
STANDARD PALETTE																									

ARAKELYAN, A.A.

Some physicommechanical properties of rubble masonry in tuff fillers. Izv.AN Arm.SSR.Ser.FMET nauk i no.6:507-516 '48. (MLRA 9:8)

1. Institut stroitel'nykh materialov i sooruzheniy Akademii nauk Armyanskoy SSR.

(Masonry)

ARAKELYAN, A.A.

Using Ani-Pemsa lime-pozzolan cement in aboveground sections of
buildings. Izv. AN Arm. SSR. Ser. ~~FOOT~~ nauk 1 no. 6: 517-523 '48.
(MLRA 9:8)

1. Institut stroitel'nykh materialov i sooruzheniy Akademii nauk
Armenyanskoy SSR.

(Cement)

USSR/Engineering - Materials, Buildings 30 Jan 53
 "Experiment in Constructing a Tufa-Reinforced-Con-
 crete Arched Roofing," Cand Tech Sci A. A. Arakelyan.
 Yerevan All-Union Sci and Tech Soc of Builders

Byull Stroit Tekh, No 2, pp 10-13

The first roofing of such material used 1942 on a
 plant built in Tbilisi. States use of concrete with
 natural light-weight filler (tufa, pumice) signifi-
 cantly expanded. Tufa filler yields concrete with
 durability of type 140 without overexpenditure of
 cement. Yerevan Central Marketplace, plan dim

248T63

31.3 x 76 meters, built 1952 with arched roofing and
 other parts, with exception of arch foundations, of
 tufa-reinforced concrete. Gives market construction
 details and dimensions, compn of tufa-concrete type
 110, test results on blocks for rise in 7 and 28 days.
 vol wt of tufa-concrete and for the arches (31-m span,
 used in above market, coeffs of elasticity for both
 heavy concrete and tufa-concrete, these being 200,000
 kg/sq cm and 50,000 kg/sq cm resp. Buckling moment
 from earthquake in arch abutments is 6.58 metric tons
 for tufa and 10 metric tons for heavy concrete. Use
 of tufa-concrete reduces vol of concrete work by
 23%, the cost of 1 cu m of concrete by 18%, and wt
 of structure by 25%. Also substantially reduces
 temp stresses.

PA 248T63

248T63

ARAKELIAN, A.A.

Wearability of building materials in aqueous media. Izv. AN
Arm.SSSR Ser. FMET nauk 7 no.2:73-82 Mr-Apr '54.

1. Institut stroitel'nykh materialov i sooruzheniy AN Armyanskoy
SSR.

(Building materials--Testing)

Arakelyan, A.A.

ARAKELIAN, A.A.

Method of determining void spaces between sand grains. Dokl.AN
Arm.SSR 22 no.5:221-224 '56. (MLRA 9:9)

1. Institut stroitel'nykh materialov i sooruzheniy Akademii nauk
Armyanskoy SSR. Predstavleno A.G. Nazarovym.
(Porosity)

ARAKELYAN, A.A.

Interrelation of operation objectives in conducting edgewater
drives. Azerb.neft.khos. 35 no.2:11-14 F '56. (MLRA 9:10)

(Oil field flooding)

ARAFIYAN, A.A.

Relationship between the strength of porous stones and the structure of their pores. Izv. AN Arm.SSR. Ser. tekhn. nauk 11 no. 1:43-54 '58.
(MIRA 11:4)

1. Institut stroymaterialov i sooruzheniy AN ArmSSR.
(Building stones--Testing)

ARAKELIAN, A.A.

Frost resistance of porous building materials. Trudy Arm. inst.
stroimat. i soor. no.1:107-122 '59. (MIRA 14:12)
(Building materials--Testing)

ARAKELIAN, A.A.

Molding large blocks under pressure from all directions.
Dokl. AN Arm. SSR 28 no.2:61-65 '59. (MIRA 12:6)

1. Institut stroitel'nykh materialov i sooruzheniy Ministerstva
stroitel'stva ArmSSR. Predstavleno chlenem-korrespondentem
AN ArmSSR M.Z. Simonovym.
(Concrete blocks)

ARAKELIAN, A. A.

Determining the strength of concrete as a capillary and porous material. Izv. AN Arm. SSR. Ser. tekhn. nauk 13 no. 2: 19-27 '60.
(MIRA 13:8)

1. Armyanskiy nauchno-issledovatel'skiy institut stroymaterialov i sooruzheniy.

(Concrete)

ARAKELYAN, A.A.

New method for planning the composition of concretes and mortars. Dokl. AN Arm. SSR 31 no. 4:233-239 '60. (MIRA 13:12)

1. Institut stroitel'nykh materialov i sooruzheniy Gosstroya Armyanskoy SSR. Predstavleno akademikom AN Armyanskoy SSR A.G. Nazarovym.

(Concrete)

(Mortar)

ARAKELIAN, A.A.

Theory of the strength of concrete. Izv.AN Arm.SSR.Ser.tekh.
nauk no.4:37-51 '61. (MIRA 16:1)

1. Institut stroymaterialov i sooruzheniy Gosstroya Armyanskoy
SSR.

(Concrete—Testing)

ARAKELYAN, A., kand.tekhn.nauk

Refining light fillers by burnishing in drums. Prom.Arm. 4
no.3:59-62 Mr '61. (MIRA 14:6)
(Lightweight concrete)

ARAKELYAN, Amazasp Aleksandrovich; MIRONOV, S.A., prof., retsenzent;
BUZHEVICH, G.A., kand. tekhn. nauk, retsenzent; ATSAGORTSYAN,
Z.A., red.; ARUTYUNYAN, S.B., red. izd-va; AKHIRYAN, Ye.,
tekhn. red.

[Lightweight concretes for large wall blocks made with tuff
and pumice aggregates] Legkie betony dlia krupnykh stenovykh
blokov na tufovykh i pemzovykh zapolniteliakh. Erevan, Ar-
mianskoe gos. izd-vo, 1962. 139 p. (MIRA 15:12)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury
SSSR (for Mironov).

(Concrete walls) (Lightweight concrete)

ARAKELIAN, A.A.

Deformation properties of cement mortars. Izv.AN Arm.SSR.Ser.-
tekh.nauk 15 no.3:51-56 '62. (MIRA 15:6)
(Cement--Testing)

ARAKELYAN, A.A.

Problem of determining the strength of concrete. Izv. AN Arm.
SSR. Ser. tekhn. nauk 17 no.3:53-58 '64.

(MIRA 17:12)

1. Armyanskiy nauchno-issledovatel'skiy institut stroitel'nykh
materialov i sooruzheniy.

L 05910-67 EWT(m)
ACC NR: AP6015956

(A)

SOURCE CODE: UR/0097/66/000/001/0025/0027

AUTHOR: Arakelyan, A. A. (Candidate of technical sciences)

ORG: None

TITLE: Properties of porous filler-based concrete mixture

SOURCE: Beton i zhelezobeton, no. 1, 1966, 25-27

TOPIC TAGS: concrete, water, filler, plastic strength, porosity

ABSTRACT: The author presents methods for determining concrete mixture characteristics of filler-based concrete. A method is proposed for determining the intensity of water absorption by rubble in concrete mixtures. Two concrete mixtures are prepared which do not contain any sand and are of uniform composition. The first batch uses dry rubble and the second contains water-saturated rubble. The same amount of rubble is used for both batches. Both mixtures are periodically stirred and their specific weight and density is determined every five minutes. The specific weight and material expenditure including water is used for calculating the respective mixture volumes. Expressions are given for determining these quantities. This procedure was used for determining water absorption intensity of certain light fillers for plastic consistency concrete. The results show that the water absorption of a coarse filler in plastic consistency concrete in 30-40 minutes is 0.7-0.8 of the water absorption re-

Card 1/2

UDC: 666.97.017:666.97.022.2

L 05910-67

ACC NR: AP6015956

sulting from 24 hours in water. The procedure outlined above is not valid for determining water absorption of a fine filler. A second method is proposed for sand. This method uses the MGU plastometer or the GOST 310-60 vibrating table. A conical plastometer is used for determining the plastic strength of the concrete mixture with a given consistency. A new batch is prepared with sand having enough water to produce the original plastic strength conditions. The amount of water required for the mixture with sand is slightly more than for that without sand. The water absorption of the sand is equal to the ratio of the additional quantity of water to sand weight. For the case where the vibrating table is used the rundown of the concrete mixture cone with and without sand is determined. The cone rundown indices should be identical for the number of table vibrations but the amount of water for the two cases will be different. If the amount of sand in the test specimens is low then the viscosity of the mixture is practically constant and a real value for the water absorption of sand can be obtained. A figure is given showing the water absorption of various types of sand determined by the vibrating table method. On the basis of these data the author feels that the vibrating table method is more efficient. The author proposes a method and gives expressions for determining filler void effect. This method consists of filling the intergrain spaces with concrete mixture. The expressions can also be used for calculating the void effect of rubble. Expressions are also given for the conditional specific filler weight which accounts for the conditional specific grain weight both in the water-saturated state and under dry conditions. Orig. art. has: 2 figures, 7 formulas.

SUB CODE; 11/ SUBM DATE: None/ ORIG REF: 004

Card 2/2 kh

APAKELIAN, A

Industrial Management In The USSR; Translated By
Ellsworth L. Raymond. Washington Public Affairs
Press (1950)
168 p. Diag. 23 Cm. (Current Soviet Thought)
Includes Bibliographies.

Аракулян, А.

Vedushchaya rol' promyshlennosti v razvitií narodnogo khozyaystva SSSR
(The leading role of industry in the USSR's national economy) Moskva, "Pravda", 1951
30 p.

Cataloged from abstract.

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ARAKELIAN, A

EPF
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PLANIROVANIYE NARODNOGO KHOZYAYSTRVA SSSR. MOSKVA, IZD-VO ZNANIYE, 1952.

39 P. (VSESOYUZNOYE OBSHCHESTVO PO RASPROSTRANENIYU POLITICHESKIKH I NAUCH-
NYKH ZNANIY. 1952, SERIYA I, NO 83)

RUSSIA

AKHILYAN, I.

Industrial Management

Utilization of the means of production in the industry of the U.S.S.R Reviewed by YE. Savonin. Vop. ekon. No. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, March 1952. Unclassified.

ARAKELIAN, A. A.

Khozraschet I Ispol'zovaniye Osnovnykh Fondov Promyshlennosti SSSR (Accounting and Utilization of Basic Funds of USSR's Industry) Pod Red. V. P. D'yachenko (Moskva) Gospstatizdat, 1954.

119 P. Tables.

Bibliographical Footnotes.

At Head of Title: Akademiya Nauk SSSR. Institut Ekonomiki.

S.O. N/5
783.303
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1
ARAKELIAN, Artashes Arkad'yevich; NOTKIN, A., professor, redaktor;
DENISOVA, O., tekhnicheskii redaktor.

[Business accounting in Soviet industry] Khoziaistvennyi raschet v
promyshlennosti SSSR. Moskva, Gosfinizdat, 1956. 166 p.
(Industry--Organization, control, etc.) (MIRA 9:4)

ARAKELIAN, Artashes Arkad'yevich; KLIMENKO, Konstantin Ivanovich; GUDKOVA, H.,
redaktor; YEGOROVA, I., tekhnicheskiiy redaktor.

[Technical progress in Soviet industry] Tekhnicheskii progress v
promyshlennosti SSSR. [Moskva] Mosk.rabochii, 1957. 87 p.
(MLRA 10:4)

(Efficiency, Industrial) (Technology)

ABRAMOV, V.A.; ALEKSEYEV, A.M.; AL'TER, L.B.; ARAKELIAN, A.A.; BAKLANOV, G.I.;
BASOVA, I.A.; BLYUMIN, I.G.; BOGOMOLOV, O.T.; BOR, M.Z.; BRUGEL',
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ZHAMIN, V.A.; ZHUK, I.N.; ZANYATIN, V.N.; IGNAT'YEV, D.I.; IL'IN,
M.A.; IL'IN, S.S.; IOFFE, Ya.A.; KAYE, V.A.; KAMENITSER, S.Ya.;
KATS, A.I.; KLIMOV, A.G.; KOZLOV, G.A.; KOIGANOV, M.V.; KONTOROVICH,
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A.I.; PARTIGUL, S.P.; PERVUSHIN, S.P.; PETROV, A.I.; PETRUSHOV, A.M.;
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SOLLERTINSKAYA, Ye.I.; SUDARIKOV, A.A.; TATAR, S.K.; TERENT'YEV,
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TSYRLIN, L.M.; SHAMBERG, V.M.; SHAPIRO, A.I.; SHCHENKOV, S.A.;
RYDEL'MAN, B.I.; MEKHIN, P.E.; MITROFANOVA, S., red.; TROYANOVSKAYA, N.,
tekh.n.red.

[Concise dictionary of economics] Kratkii ekonomicheskii slovar'.
Moskva, Gos.izd-vo polit.lit-ry, 1958. 391 p. (MIRA 11:7)
(Economics--Dictionaries)

ARAKELIAN, A.

The use of chemistry in production and increasing labor productivity.
Sots. trud. no.8:11-19 Ag '58. (MIRA 11:9)
(Chemical industries) (Efficiency, Industrial)

ARAKELIAN, Artashes Arkad'yevich; MYASOYEDOV, B., red.; PAVLOVA, S.,
tekh.n.red.

[Why we are against the levelling of wages] Pochemy my protiv
uravnilovki. Moskva, Izd-vo "Moskovskii rabochii," 1959. 34 p.
(Wages) (MIRA 13:1)

ARAKELYAN, A.

Technical progress is fundamental for the increase in labor
productivity. Sots.trud 4 no.3:17-26 Mr '59. (MIRA 12:4)
(Russia--Economic policy)
(Technology)

ARAKEL'YAN, Artashes Arkad'yevich, akademik; DUBROVSKIY, Yu.N., red.;
ATROSHCHENKO, L.Ye., tekhn.red.

[Funds of socialist enterprises] Fondy sotsialisticheskikh
predpriyatii. Moskva, Izd-vo "Znanie," 1960. 31 p. (Vsesoiuznoe
obshchestvo po rasprostraneniю politicheskikh i nauchnykh znaniy.
Ser.3, Ekonomika, no.30). (MIRA 13:11)

1. AN Armyanskoy SSR (for Arakelyan).
(Capital)

ARAKELYAN, A., akademik

Funds of socialist enterprises and their turnover. Vop.ekon.
no.9:120-130 S '60. (MIRA 13:8)

1. Akademiya, nauk Armyanskoy SSR.
(Economics)

ALAVERYAN, Stepan Karapetovich (1888-1920); ARAKELIAN, A.A., akademik,
red.; SHTIBEN, R.A., red. izd-va; KAPLANYAN, M.A., tekhn. red.

[Housing question in Moscow; essays on the prerevolutionary
period! Zhilishchnyi vopros v Moskve; ocherki predrevoliutsion-
nogo perioda. Pod red. A.A.Arakeliana. Erevan, Izd-vo Akad.
nauk Armianskoi SSR, 1961. 109 p. (MIRA 15:1)

1. Akademiya nauk Armyanskoy SSR (for Arakelyan).
(Moscow--Housing)

ARAKELIAN, Artashes Arkad'yevich, akad.; TOVMOSYAN, M.Ye., red.; NAZAROVA,
A.S., tekhn. red.

[Material basis of communist labor] Material'naia osnova kommunisticheskogo truda. Moskva, Izd-vo "Znanie," 1962. 31 p.
(Novoe v zhizni, nauke, tekhnike. III Seriya: Ekonomika, no.4)
(MIRA 15:5)

1. Akademiya nauk Armyanskoy SSR (for Arakelyan).
(Labor and laboring classes)

ARAKELIAN, A., akademik

Problems of the division of labor among republics and economic regions. Vop. ekon. no.8:28-36 Ag '62. (MIRA 15:8)

1. AN Armyanskoy SSR.
(Division of labor) (Industries, Location of)

ARAKELYAN, A., akademik

Several problems in developing the economics of socialism in
the light of the decisions of the 22d Congress of the CPSU.
Vop. ekon. no.8:37-46 Ag '62. (MIRA 15:8)

1. AN Armyanskoy SSR.
(Communism) (Economics)

ARAKELYAN, A. A.

"Experience of effective planning of national economy in Trans-caucasian Republics"

report to be submitted for the United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas - Geneva, Switzerland, 4-20 Feb 63.

ARAKELYAN, A., akademik; ZLOBIN, I.; IVANOV, Ye.; KANTOR, L.;
SAID-GALIYEV, K.; SPIRIDONOVA, N.

More on the theory of amortization. Vop. ekon. no.1:130-133
Ja '64. (MIRA 17:3)

1. AN Armyanskoy SSR (for Arakelyan).

L 8896-66 EWT(1)

ACC NR: AP5027635

SOURCE CODE: UR/0105/65/000/009/0007/0012

AUTHOR: ^{44,55}Chilikin, M. G. (Doctor of technical sciences, Professor); ²¹
^BArakelyan, A. K. (Candidate of technical sciences); ^{44,55}Afanas'yev, A. A. (Engineer)

ORG: ^{44,55}Moscow Power-Engineering Institute ^{44,55}(Moskovskiy energeticheskiy institut);
^{44,55}The Volga Branch of MEI (Volzhskiy filial MEI)

TITLE: Some potentialities of the commutatorless d-c drive

SOURCE: Elektrichestvo, no. 9, 1965, 7-12

TOPIC TAGS: electric power drive, dc power drive, commutatorless motor ²¹

ABSTRACT: A theoretical and experimental investigation of a synchronous motor supplied by d. c. via a d-c/a-c inverter is presented. The inverter designed with thyratrons or semiconductor devices is synchronized with the rotor by means of a rotating emf induced in the stator windings by the rotor field. By setting a

Card 1/2

UDC: 621.34:621.3.024

2

L 8896-66

ACC NR: AP5027635

definite relation (formulas are developed) between the motor mechanical load and the excitation current, static and dynamic stability can be achieved which precludes out-of-step conditions on overloads. Inverter-power and motor mechanical characteristics are shown; they are constructed from experimental data obtained with this motor: 4.5 kw, 127 vac, 15.6 amp, 1500 rpm; stator-winding synchronous leakage reactance, 1 ohm. An electric drive based on the above motor permits providing a two-range continuous speed adjustment within wide limits. The system is recommended for driving mechanisms that require wide-range speed adjustment and large high-speed synchronous motors. Orig. art. has: 5 figures, 45 formulas, and 4 tables.

SUB CODE: 09 / SUBM DATE: 17Apr65 /

Card 2/2 *ido*

SOKOLOV, MIKHAIL MIKHAYLOVICH, kand.tekhn.nauk, dotsent; ARAKELIAN,
ALEKSANDR KARAPETOVICH, aspirant

Static operating conditions of a regulated asynchronous
electric drive with an electrohydraulic pusher. Izv. vys.
ucheb. zav.; elektromekh. 4 no.6:76-90 '61. (MIRA 14:7)

1. Kafedra elektrooborudovaniya promyshlennykh predpriyatiy
Moskovskogo energeticheskogo instituta.
(Cranes, derricks, etc.--Electric driving)
(Electric motors, Induction)

ARAKELIAN, A.K., inzh.

Experimental study of T-45B and T-75B series electrohydraulic
pushers. Trudy MEI no.38:139-150 '62. (MIRA 17:2)

SOKOLOV, Mikha'il Mikhailovich, doktor tekhn. nauk, prof.; ARAKELYAN, Aleksandr Karapetovich, kand. tekhn. nauk, ispolnyayushchiy obyazannosti dotsenta.

Study of transient processes in an asynchronous electric drive with an electrohydraulic pusher by simulation on analog computers. Izv. vys. ucheb. zav.; elektromekh. 7 no.9:1096-1106 '64

(MIRA 18:1)

1. Zamestitel' zaveduyushchego kafedroy elektrooborudovaniya promyshlennykh predpriyatiy Moskovskogo energeticheskogo instituta (for Sokolov). 2. Ispolnyayushchiy obyazannosti zaveduyushchego kafedroy elektroprivoda i elektricheskikh mashin Volzhskogo filiala Moskovskogo energeticheskogo instituta (for Arakelyan).

SOKOLOV, Mikhail Mikhaylovich, doktor tekhn. nauk, prof.;
ARAKELYAN, Aleksandr Karapetovich, kand. tekhn. nauk, dotsent

Power considerations of an asynchronous electric drive with an electrohydraulic pusher. Izv. vys. ucheb. zav.; elektromekh. 8 no.11:1240-1256 '65.
(MIRA 19:1)

1. Zamestitel' zaveduyushchego kafedroy elektroprivoda i avtomatizatsii promyshlennykh ustanovok Moskovskogo ordena Lenina energeticheskogo instituta (for Sokolov). 2. Zaveduyushchiy kafedroy elektroprivoda i avtomatizatsii promyshlennykh ustanovok Volzhskogo filiala Moskovskogo ordena Lenina energeticheskogo instituta (for Arakelyan).

GRISHIN, Vasilii Koz'mich; GLAZUNOV, Mikhail Grigor'yevich; ARAKELOV, Artur Gereginovich; VOL'DEYT, Aleksandr Vladimirovich;
MAKEDONSKAYA, Gertruda Semenovna; KAMAYEVA, O.M., red.izd-va;
KARASEV, A.I., tekhn. red.

[Properties of lithium]Svoistva litia. Moskva, Metallurgiz-
dat, 1963. 115 p. (MIRA 16:3)

(Lithium)

8(5)

AUTHOR:

Arakelyan, A. M., Engineer

105-59-2-5/25

TITLE:

Electrodynamic Forces Acting on a Current-Carrying Conductor
Situating Near a Corner of a Ferromagnetic Body (Elektro-
dinamicheskiye sily, deystvuyushchiye na provodnik s tokom
raspolozhenny v blizhi ugla ferromagnitnogo tela)

PERIODICAL:

Elektrichestvo, 1959, Nr 2, pp 16-20 (USSR)

ABSTRACT:

The work, supervised by E. A. Meyerovich, investigates the calculations of a plane parallel magnetic field at the presence of a ferromagnetic body of the shape of an edge of any length. The magnetic inductivity of this body is assumed to be infinitely large. For this case it is convenient to use the method of images that was introduced in 1848 by Tomson (Tomson) (Ref 1). It is shown that this method is usable for problems where an angle of any size serves as limit. To-date this method was used in those cases only where the angle mentioned was a true fraction of π . Formulae are obtained for the case also where the angle θ forms an irrational part of π . In this case theoretically an infinite number of reflections must be carried out, and the images come to lie on a Riemann's surface with an infinite number of sheets. At first, the magnetic

Card 1/4

Electrodynamic Forces Acting on a Current-Carrying Conductor Situated Near
a Ferromagnetic Body

SOV/105-59-2-5/25

field is calculated. Any angle θ is accepted as limit of two areas. One range is filled with a ferromagnetic material of infinitely large magnetic inductivity. Here, the range Γ within the angle θ is investigated. In this range a linear current carrying conductor is situated. As a plane parallel field is investigated its calculation can be done in the complex plane z . The two possible boundary conditions are named: 1) The range Γ within the angle θ is filled by air, the range outside the angle with steel of infinitely large magnetic inductivity. 2) Contrary: within the angle - steel, outside the angle - air. At these limiting conditions the analytical continuation of the function $\xi(z)$ (Refs 3, 2) can be made beyond the limits in accordance with the principle of symmetry by Riemann-Schwarz (Riman-Shvarts). z is a multiple sheet surface. The problem is illustrated by geometric interpretation. The range Γ is reflected on its limits (reflected image). This is done so many times as is necessary to achieve a coincidence with the original domain. At this, the reflected images become equal in relation to both angle limits and generally come to lie on the Riemann's multiple sheet surface. The formulae (6)

Card 2/4

Electrodynamic Forces Acting on a Current-Carrying Conductor Situated Near
a Ferromagnetic Body

SOV/105-59-2-5/25

and (7) for the components of the vector of the field strength of the magnetic field are derived. Then, the electrodynamic forces acting on the current carrying conductor are calculated. The first above mentioned case is investigated, only (current carrying conductor in air). The magnetic field in the range T can be represented by the superposition of two fields: one field due to the current I without the ferromagnetic edge and the field caused by magnetizing the ferromagnetic edge. The formulae (16) and (17) for the components of the electrodynamic force acting on the current carrying conductor (per unit length) are derived. From the equation (17) it may be seen that if the current carrying conductor is situated on the bisector of the angle θ the tangential component of the force equals zero. - The analogous formulae (18) and (19) are given for the orthogonal system of coordinates. At the method given by this article no regard was paid to the saturation of the ferromagnetic edge. There are 6 figures and 5 references, 4 of which are Soviet.

Card 3/4

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9,3100 (1031,1144,1159)

S/173/60/013/001/002/005
A104/A029

AUTHOR: Arakelyan, A.M.

TITLE: The Application of the Method of Images to Solving Magnetostatic Problems at Finite Permeability of the Medium

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR, Seriya tekhnicheskikh nauk, 1960, Vol. 13, No. 1, pp. 37-43

TEXT: In this paper completed under the guidance of Professor E.A. Meyerovich the author states that in cases of finite permeability of the Medium the method of images is limited to problems where zones of differing finite permeability are bordered by infinite plains or radial cylinders as described in References 3 and 4, or infinite parallel plains (Refs. 5, 6, 7). An example of this method is shown in Figure 1, where μ_1 is the permeability of the electricity zone and μ_2 the permeability of the remaining medium. Analogous to the final solution in References 9 and 10, Professor E.A. Meyerovich applied the method of images to a problem where zones of finite permeability are bordered by a dihedral angle comprising the whole of π . The value of each representation was equal to the preceding value and multiplied by the coefficient α . The distribution of

Card :/3

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S/173/013/001/002/005
A104/A029

The Application of the Method of Images to Solving Magnetostatic Problems at Finite Permeability of the Medium

images relevant to an angle of 60° is shown. Calculations showed that in this case the application of the method of images did not render accurate results. From References 1 and 2 results that generally images are distributed on multi-layer Riemann surfaces. It is assumed that in cases of finite magnetic permeability the amount of Riemann surfaces and the number of images distributed thereupon depend on the magnitude of the zone border angle and on the value of permeability of these zones. Equation (11) contains the solution obtained by the authors for zones with finite permeability, bordered by the dihedral angle $\theta = 90^\circ$. At these values the problem is solved with the help of 16 images distributed on a four-layer Riemann surface. For simplicity's sake these four layers are shown as one layer. The coefficient value of images is given in Equation 12. The solution obtained satisfies all specifications and enables the determination of magnetic intensity of both zones. There are 5 figures and 11 references: 1 English and 10 Soviet.

ASSOCIATION: ENIN AN SSR, Institut elektrotekhniki AN Armyanskoy SSR (ENIN AS SSR, Institute of Electrical Engineering of the AS Armyanskaya SSR)
SUBMITTED: July 2, 1959

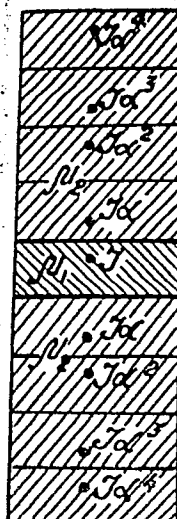
Card 2/3

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S/173/60/013/001/002/005
A104/A029

The Application of the Method of Images to Solving Magnetostatic Problems at Finite Permeability of the Medium

Figure 1:



Card 3/3

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